

**Mathematics Strand 1**  
**Number Sense and Operations**  
**Expanded Benchmarks**

**DRAFT**

**Students at these standards levels know and are able to the following by the end of the school year:**

<b>Grade</b>	<b>Standard</b>	<b>Essence</b>	<b>Most Complex</b>	<b>More Complex</b>	<b>Less Complex</b>
K	C1-PO2. Identify orally a whole number represented by a model with a word name and symbol 0 through 20. (Say 3 and write number 3 when presented with three objects).	Begin to count, group, sort, and match quantities of numbers.	Identify orally a whole number represented by a model with a word name and symbol 1 through 10. (Say 3 when presented with three objects or the numeral 3).	Identify orally a whole number represented by a model with a word name 1 through 5. (Say 3 when presented with three objects).	Make sets to match a model to represent a given whole number to 3.
	C1-PO4. Identify whole numbers through 20 in or out of order.	Identify whole numbers.	Identify whole numbers through 10 in or out of order.	Identify whole numbers through 5 in or out of order.	Select one object upon request.
	C1-PO8. Recognize the ordinal numbers through fifth (i.e., first, second, third, etc.)	Recognize ordinal numbers.	Recognize the ordinal numbers through third (i.e., first, second, third).	Recognize the ordinal positions of first and last.	Recognize the ordinal position of first.
	C1-PO10. Identify penny, nickel, dime, quarter, and dollar by using manipulatives or pictures.	Recognition of money.	Identify three out of five of the following by using manipulatives or pictures: penny, nickel, dime, quarter, and dollar.	Identify two out of five of the following by using manipulatives or pictures: penny, nickel, dime, quarter, and dollar.	Distinguish coins when presented with two or more coins.
	C2-PO4. Solve word problems presented orally using addition or subtraction with numbers through 9.	Represent operations of addition and subtraction concretely.	Solve word problems presented orally supported with visual representation using addition or subtraction with numbers through 5.	Solve word problems presented orally supported with visual representation using addition or subtraction with numbers through 3.	Demonstrates the concept of one more.

Grade	Standard	Essence	Most Complex	More Complex	Less Complex
1	C1-PO8. Count by multiples to show the process of multiplication (10s, 5s, or 2s).	Count by multiples.	Count by multiples of 10 to show the process of multiplication.	Group manipulatives by sets of 10 to show the process of multiplication.	Make sets to match a model to represent a given whole number to 5.
2	C1-PO18. Use decimals through hundredths in contextual situations with money.	Use decimals in context.	Using all quarters and all dimes, match each to a visual representation equaling one dollar.	Using all quarters, match to a visual representation equaling one dollar.	Use money or a representation of money (e.g., lunch ticket) to make a purchase.
3	<p>C1-PO1. Read whole numbers in contextual situations (through six-digit numbers).</p> <p>C1-PO16. Use decimals through hundredths in contextual situations.</p> <p>C2-PO6. Solve word problems using grade-level appropriate operations and numbers.</p> <p>C2-PO17. Apply addition and subtraction in contextual situations, through \$20.00.</p> <p>C3-PO1. Solve grade-level appropriate problems using estimation.</p>	<p>Read numbers.</p> <p>Use decimals in context.</p> <p>Solve word problems.</p> <p>Add and subtract.</p> <p>Estimate using objects and manipulatives.</p>	<p>Read whole numbers in contextual situations (through 100).</p> <p>Use decimals in contextual situations involving money to \$9.99.</p> <p>Solve word problems supported with visual representation using addition or subtraction without regrouping with numbers through 20.</p> <p>Apply addition and subtraction in contextual situations, through \$10.00.</p> <p>Solve grade-level appropriate problems using estimation for measurement and money.</p>	<p>Read whole numbers in contextual situations (through 20).</p> <p>Match decimals in contextual situations involving money to \$5.00.</p> <p>Solve word problems supported with visual representation using addition or subtraction without regrouping with numbers through 10.</p> <p>Apply addition and subtraction in contextual situations, through \$5.00.</p> <p>Solve grade-level appropriate problems using estimation for measurement and money in contextual situations.</p>	<p>Match numerals up to 3 in contextual situations.</p> <p>Match like coins.</p> <p>Using a model of sets up to 3, complete partial sets to match model (e.g., do we need more added, do we have enough, or do we need less?).</p> <p>By using a pre-determined amount of money in an envelope, makes a single-item purchase.</p> <p>Given two sets with a difference of at least eight objects, select the set that has more or less.</p>

Grade	Standard	Essence	Most Complex	More Complex	Less Complex
<b>4</b>	C1-PO1. Read whole numbers in contextual situations.	Read whole numbers.	Read whole numbers in contextual situations (through 500).	Read whole numbers in contextual situations (through 100).	Match numerals in contextual situations.
	C1-PO14. Use decimals in contextual situations.	Use decimals in context.	Use decimals in contextual situations involving \$10.00 or greater.	Use decimals in contextual situations involving money up to \$10.00.	Matches a single coin/bill to a money card to complete a purchase.
	C2-PO4. Solve word problems using grade-level appropriate operations and numbers.	Solve word problems.	Solve word problems supported with visual representation using two-digit numbers for addition or subtraction with regrouping.	Solve word problems using addition or subtraction with number combinations not to exceed 100 using a calculator.	Using a model of sets up to 5, complete partial sets to match model (e.g., do we need more added, do we have enough, or do we need less?).
	C3-PO1. Solve grade-level appropriate problems using estimation.	Estimate to solve problems.	Solve grade-level appropriate problems using estimation for measurement, money, and time.	Solve grade-level appropriate problems using estimation for money, and time in contextual situations.	Given two sets with a difference of at least six objects, select the set that has more or less.
<b>5</b>	C1-PO6. Compare two whole numbers, fractions, and decimals (e.g., $\frac{1}{2}$ to 0.6).	Compare whole numbers, fractions, and decimals.	Using visual representation, indicate which of two whole numbers is more or less, which of two fractions is more or less, and which of two decimals is more or less.	Using visual representation, indicate which of two whole numbers is more or less, which of two fractions is more or less, and which of two decimals is more or less in contextual situations.	Using two measuring tools such as measuring cups or a science beaker indicate which one has more or which one has less.
	C1-PO8. Determine the equivalency between and among fractions, decimals, and percents in contextual situations.	Determine money equivalency.	Determine coin equivalencies for combinations to \$1.00.	Determine coin equivalencies for combinations to \$1.00 in contextual situations.	Matches different combinations of coins/bills to a money card to complete a purchase.

Grade	Standard	Essence	Most Complex	More Complex	Less Complex
<b>5</b>	C2-PO2. Solve word problems using grade-level appropriate operations and numbers	Solve word problems.	Solve word problems using addition, subtraction, or multiplication using a calculator.	Solve word problems using addition, subtraction, or single-digit multiplication using a calculator.	Using a model of sets up to 5, complete partial sets to match model (e.g., do we need more added, do we have enough, or do we need less?).
	C3-PO1. Solve grade-level appropriate problems using estimation.	Estimate to solve problems.	Solve problems involving whole numbers using the concept of rounding up and down.	Solve problems involving money up to \$10.00 using the concept of rounding up.	Given two sets with a difference of at least four objects, select the set that has more or less.
<b>6</b>	C1-PO4. Determine the equivalency between and among fractions, decimals, and percents in contextual situations.	Determine equivalency of money.	Determine money equivalencies for combinations to \$20.00.	Determine money equivalencies for combinations to \$10.00 in contextual situations.	Match a single coin/bill to a money card corresponding with each item to make a multiple-item purchase.
	C2-PO2. Solve word problems using grade-level appropriate operations and numbers.	Solve word problems.	Solve word problems using addition, subtraction, multiplication, and simple division using a calculator.	Solve word problems using addition, subtraction, and multiplication using a calculator.	When given 10 like coins or less and an item with a price from one to 10 like coins, locates position of price on a number line and counts out “just enough money.”
	C2-PO14. Solve problems involving fractions or decimals (including money) in contextual situations.	Solve problems involving money.	Determine if there are sufficient funds to make a purchase of up to \$50.00, using a calculator if needed.	Determine if there are sufficient funds to make a purchase of up to \$20.00, using a calculator.	Determine if there are sufficient funds to make a purchase of up to 10 like coins by using a number line.
	C3-PO1. Solve grade-level appropriate problems using estimation.	Estimate to solve problems.	Solve problems involving decimals using the concept of rounding up and down.	Solve problems involving money up to \$20.00 using the concept of rounding up.	Given a visual representation such as a number line, verify which of two items costs more.

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<b>7</b>	C2-PO4. Solve word problems using grade-level appropriate operations and numbers.	Solve word problems.	Solve word problems using addition, subtraction, multiplication, and division using a calculator.	Solve word problems using addition, subtraction, and multiplication using a calculator.	When given 10 like coins/bills or less and an item with a price that is less than the amount given, indicates “enough money.”
	C3-PO1. Solve grade-level appropriate problems using estimation.	Estimate to solve problems.	Solve problems involving decimals using the concept of rounding up and down.	Solve problems involving money up to \$20.00 using the concept of rounding up.	Given a visual representation such as a number line, verify which of two items costs more.
<b>8</b>	C2-PO2. Solve word problems using grade-level appropriate operations and numbers.	Solve word problems.	Solve word problems using addition, subtraction, multiplication, and division using a calculator.	Solve word problems using addition, subtraction, and multiplication using a calculator.	When given 10 like coins/bills and an item with a price that is more than the amount given, indicates “not enough money.”
	C3-PO1. Solve grade-level appropriate problems using estimation.	Estimate to solve problems.	Solve problems involving decimals using the concept of rounding up and down.	Solve problems involving money up to \$20.00 using the concept of rounding up.	Given a visual representation such as a number line, verify which of two items costs less.
<b>10</b>	C2-PO2. Solve word problems using grade-level appropriate operations and numbers.	Solve word problems.	Solve word problems using addition, subtraction, multiplication, and division using a calculator.	Solve word problems using addition, subtraction, and multiplication using a calculator.	When given a combination of coins and bills, determine if there is “enough money” or “not enough money” to make the purchase.
	C3-PO1. Solve grade-level appropriate problems using estimation.	Estimate to solve problems.	Solve problems involving decimals using the concept of rounding up and down.	Solve problems involving money up to \$20.00 using the concept of rounding up.	Given a visual representation such as a number line, compare items to determine which costs more and which costs less.

**Mathematics Strand 2**  
**Data Analysis, Probability, and Discrete Math**  
**Expanded Benchmarks**

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**Students at these standards levels know and are able to do the following by the end of the school year:**

<b>Grade</b>	<b>Standard</b>	<b>Essence</b>	<b>Most Complex</b>	<b>More Complex</b>	<b>Less Complex</b>
<b>K</b>					
<b>1</b>	C1-PO 2. Make a simple pictograph or tally chart with appropriate labels from organized data.	Understand one-to-one correspondence.	Given labels, place tally marks under correct label.	Match sets of up to three objects to match a model.	Make sets of one-to-one to match a model.
<b>2</b>	C1-PO 2. Make a simple pictograph or tally chart with appropriate labels from organized data.	Understand one-to-one correspondence.	Given labels and pictures, create a pictograph showing one-to-one correspondence.	Given labels, place tally marks under correct label.	Make sets of up to three objects to match a model.
<b>3</b>	C1-PO 2. Construct a horizontal bar, vertical bar, pictograph, or tally chart with appropriate labels and title from organized data.  C1-PO 6. Solve problems using graphs, charts and tables.	Use data to make a graph.  Use a graph to solve a problem.	With appropriate labels and titles provided, construct a horizontal bar, vertical bar, pictograph, or tally chart from organized data.  Answer questions related to the context of the school community using graphs, charts and tables.	With appropriate labels, titles, and organized data provided, construct a horizontal bar, vertical bar, pictograph, or tally chart.  Answer questions related to the context of the classroom using graphs, charts and tables.	Construct a horizontal bar, vertical bar, pictograph, or tally chart by matching and filling in.  Participate in the collection of data to solve a problem or answer a question using graphs, charts and tables.

<b>Grade</b>	<b>Standard</b>	<b>Essence</b>	<b>Most Complex</b>	<b>More Complex</b>	<b>Less Complex</b>
<b>4</b>	<p>C1-PO2. Construct a single-bar graph, line graph or two-set Venn diagram with appropriate labels and title from organized data.</p> <p>C1-PO7. Solve contextual problems using graphs, charts, and tables.</p>	<p>Use data to make a graph.</p> <p>Use a graph to solve a problem.</p>	<p>With appropriate labels and titles provided, construct a single-bar graph, line graph or two-set Venn diagram from organized data.</p> <p>Answer questions related to the context of the school community using graphs, charts and tables.</p>	<p>With appropriate labels, titles, and organized data provided, construct a single-bar graph or line graph.</p> <p>Answer questions related to the context of the classroom using graphs, charts and tables.</p>	<p>Construct a single-bar graph, line graph or two-set Venn diagram by matching and filling in.</p> <p>Participate in the collection of data to solve a problem or answer a question using graphs, charts and tables.</p>
<b>5</b>	<p>C1-PO2. Construct a double-bar graph, line plot, frequency table, or three-set Venn diagram with appropriate labels and title from organized data.</p> <p>C1-PO8. Solve contextual problems using graphs, charts, and tables.</p>	<p>Use data to make a graph.</p> <p>Use a graph to solve a problem.</p>	<p>With appropriate labels and titles provided, construct a double-bar graph, line plot, frequency table, or three-set Venn diagram from organized data.</p> <p>Answer questions related to the context of the school community using graphs, charts and tables.</p>	<p>With appropriate labels, titles, and organized data provided, construct a single-bar graph, line graph or two-set Venn diagram with appropriate labels and title from organized data.</p> <p>Answer questions related to the context of the classroom using graphs, charts and tables.</p>	<p>Construct a single-bar graph, line graph or two-set Venn diagram by matching and filling in.</p> <p>Participate in the collection of data to solve a problem or answer a question using graphs, charts and tables.</p>
<b>6</b>	<p>C1-PO2. Construct a histogram, line graph, scatter plot, or stem and leaf plot with appropriate labels and title from organized data.</p>	<p>Use data to make a graph.</p>	<p>With appropriate labels and titles provided, construct a histogram, line graph, scatter plot, or stem and leaf plot from organized data.</p>	<p>With appropriate labels, titles, and organized data provided, construct a histogram, line graph, scatter plot, or stem and leaf plot from organized data.</p>	<p>Construct a histogram, line graph, scatter plot, or stem and leaf plot from organized data by matching and filling in.</p>

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<b>6</b>	C1-PO8. Solve contextual problems using bar graphs, tally charts, and frequency tables.	Use a graph to solve a problem.	Answer questions related to the context of the school community using bar graphs, tally charts, and frequency tables.	Answer questions related to the context of the classroom using bar graphs, tally charts, and frequency tables.	Participate in the collection of data to solve a problem or answer a question using bar graphs, tally charts, and frequency tables.
<b>7</b>	C1-PO2. Construct a circle graph with appropriate labels and title from organized data.  C1-PO9. Solve contextual problems using histograms, line graphs of continuous data, double bar graphs, and stem and leaf plots.	Use data to make a graph.  Use a graph to solve a problem.	With appropriate labels and titles provided, construct a circle graph from organized data.  Answer questions related to the context of the school community using histograms, line graphs of continuous data, double bar graphs, and stem and leaf plots.	With appropriate labels, titles, and organized data provided, construct a circle graph.  Answer questions related to the context of the classroom using histograms, line graphs of continuous data, double bar graphs, and stem and leaf plots.	Construct a circle graph by matching and filling in.  Participate in the collection of data to solve a problem or answer a question using histograms, line graphs of continuous data, double bar graphs, and stem and leaf plots.
<b>8</b>	C1-PO2. Construct box and whisker plots.  C1-PO9. Solve contextual problems using scatter plots, box and whisker plots, and double line graphs of continuous data.	Use data to make a graph.  Use a graph to solve a problem.	With appropriate labels and titles provided, construct box and whisker plots from organized data.  Answer questions related to the context of the school community using scatter plots, box and whisker plots, and double line graphs of continuous data.	With appropriate labels, titles, and organized data provided, construct box plots.  Answer questions related to the context of the classroom using scatter plots, box and whisker plots, and double line graphs of continuous data.	Construct box and whisker plots by matching and filling in.  Participate in the collection of data to solve a problem or answer a question using scatter plots, box and whisker plots, and double line graphs of continuous data.



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<b>10</b>	C1-PO2. Organize collected data into an appropriate graphical representation.	Use pictures to represent data.	With appropriate graphical representation, labels, and titles provided, organize collected data.	With appropriate graphical representation, labels, titles, and organized data provided, construct a graph.	With appropriate graphical representation, labels, titles, and organized data provided, construct a graph by matching and filling in.
	C1-PO9. Draw inferences from charts, tables, graphs, plots, or data sets.	Interpreting graphic information.	Draw conclusions from charts, tables, graphs, or data sets.	Make decisions using charts, tables, graphs, or data sets (e.g., referring to a bus schedule to determine when to leave for the bus stop).	Answer questions using charts, tables, graphs, or data sets (e.g., determine majority response for specific likes/dislikes).

**Mathematics Strand 3**  
**Patterns, Algebra, and Functions**  
**Expanded Benchmarks**

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**Students at these standards levels know and are able to do the following by the end of the school year:**

<b>Grade</b>	<b>Standard</b>	<b>Essence</b>	<b>Most Complex</b>	<b>More Complex</b>	<b>Less Complex</b>
<b>K</b>	C1-PO2. Extend simple repetitive patterns using manipulatives.	Recognize patters.	Extend a repeating pattern of two or more objects, shapes, designs, or numbers (e.g., cup, spoon, spoon).	Recognize and demonstrate understanding of regularity in a pattern by adding on the next object, shape, design, or number to a continuing pattern (e.g., spoon, spoon, spoon).	Anticipate and respond to an event that occurs routinely (e.g., repeated ringing of bell).
<b>1</b>	C3-PO1. Use variables in contextual situations.	Use variables in contextual situations.	Find and supply a missing element in a repeating pattern (e.g., fork, knife, spoon, fork, ____, spoon).	Match an alternating pattern of two or more objects, shapes, designs, or numbers (e.g., 2, 3, 2).	Recognize and indicate when a change has interrupted a regular event (e.g., change in the daily routine).
<b>2</b>	C3-PO1. Use variables in contextual situations.	Use variables in contextual situations.	Create a repeating pattern using objects, shapes, designs, or sets and numbers.	Extend a repeating pattern of two or more objects, shapes, designs, or numbers (e.g., cup, spoon, spoon).	Reproduce a repeated event (e.g., clapping sequence).
<b>3</b>	Use variables in contextual situations.	Use variables in contextual situations.	Predict, extend, or create a repeating pattern (numbers, pictures, or objects).	Find and supply a missing element in a repeating pattern (e.g., fork, knife, spoon, fork, ____, spoon).	Match a line of single objects, shapes, designs, or numbers (e.g., 3, 3, 3, 3).

Grade	Standard	Essence	Most Complex	More Complex	Less Complex
<b>4</b>	C3-PO1. Use variables in contextual situations.	Use variables in contextual situations.	Create and explain a pattern using simple addition and subtraction (e.g., adding by 2s, subtracting by 3s).	Create a repeating pattern using objects, shapes, designs, or sets and numbers.	Recognize and demonstrate understanding of regularity in a pattern by adding on the next object, shape, design, or number to a continuing pattern (e.g., spoon, spoon, spoon).
<b>5</b>	C3-PO1. Use variables in contextual situations.	Use variables in contextual situations.	Count by 2s, 5s, and 10s, to 100.	Count by 5s, to 60.	Match an alternating pattern of two or more objects, shapes, designs, or numbers (e.g., 2, 3, 2).
<b>6</b>	C3-PO1. Use variables in contextual situations.	Use variables in contextual situations.	Predict, extend, or create a pattern using words, numbers, or operations (e.g., $1 + 1 = 2$ , $1 + 2 = 3$ , $1 + \underline{\quad} = 4$ ).	Predict, extend, or create a repeating pattern (numbers, pictures, or objects).	Extend a repeating pattern of two or more objects, shapes, designs, or numbers (e.g., cup, spoon, spoon).
<b>7</b>	C3-PO1. Use variables in contextual situations.	Use variables in contextual situations.	Predict, extend, or create a pattern using words, numbers, or operations (e.g., $1 + 1 = 2$ , $1 + 2 = 3$ , $1 + \underline{\quad} = 4$ ).	Predict, extend, or create a repeating pattern (numbers, pictures, or objects).	Extend a repeating pattern of two or more objects, shapes, designs, or numbers (e.g., cup, spoon, spoon).
<b>8</b>	C3-PO1. Use variables in contextual situations.	Use variables in contextual situations.	Predict, extend, or create a pattern using words, numbers, or operations (e.g., $1 + 1 = 2$ , $1 + 2 = 3$ , $1 + \underline{\quad} = 4$ ).	Predict, extend, or create a repeating pattern (numbers, pictures, or objects).	Extend a repeating pattern of two or more objects, shapes, designs, or numbers (e.g., cup, spoon, spoon).
<b>10</b>	C3-PO2. Simplify algebraic expressions.	Group variables in an algebraic expression.	Demonstrate how the change in one variable affects or changes another variable in an equation using pictures, graphs, charts, or equations.	Identify the unknown variable in a simple mathematical sequence (e.g., $2 + \underline{\quad} = 4$ ).	Extend a repeating pattern of two or more objects, shapes, designs, or numbers (e.g., cup, spoon, spoon).

**Mathematics Strand 4  
Geometry and Measurement  
Expanded Benchmarks**

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**Students at these standards levels know and are able to do the following by the end of the school year:**

<b>Grade</b>	<b>Standard</b>	<b>Essence</b>	<b>Most Complex</b>	<b>More Complex</b>	<b>Less Complex</b>
<b>K</b>	C1-PO2. Identify concepts and terms of position and size in contextual situations: <ul style="list-style-type: none"> <li>• Inside/outside</li> <li>• Above/below/between</li> <li>• Smaller/larger</li> <li>• Longer/shorter</li> </ul>	Understand terms of position and size.	Identify concepts and terms of position and size in contextual situations: <ul style="list-style-type: none"> <li>• Inside/outside</li> <li>• Above/below/between</li> <li>• Smaller/larger</li> </ul>	Identify concepts and terms of position and size in contextual situations: <ul style="list-style-type: none"> <li>• Above/below/between</li> <li>• Smaller/larger</li> </ul>	Extends appropriate body part in contextual situations: <ul style="list-style-type: none"> <li>• Extends arm when coat is offered</li> </ul> Extends foot to put on shoe <ul style="list-style-type: none"> <li>• Extends hands for washing</li> </ul>
<b>1</b>	C1-PO3. Use concepts and terms of position and size in contextual situations: <ul style="list-style-type: none"> <li>• Inside/outside</li> <li>• Left/right</li> <li>• Above/below/between</li> <li>• Smaller/larger</li> <li>• Longer/ shorter.</li> </ul> C4-PO3. Tell time to the hour using analog and digital clocks.	Use terms of position and size.          Understand concept of time.	Use concepts and terms of position and size in contextual situations: <ul style="list-style-type: none"> <li>• Inside/outside</li> <li>• Left/right</li> <li>• Smaller/larger</li> <li>• Longer/ shorter.</li> </ul> Use clock time on the hour in meaningful situations to comment on the time, estimate time needs, and solve real-life problems (e.g., “We need to go to the library at 11:00. Let us know when it’s time to go.”).	Use concepts and terms of position and size in contextual situations: <ul style="list-style-type: none"> <li>• Left/right</li> <li>• Smaller/larger</li> </ul> Identify the picture (paired with print) or tactile symbol (paired with Braille) that represents the activity in which the student is engaged and of the <i>next</i> activity.	Extends appropriate body part in contextual situations: <ul style="list-style-type: none"> <li>• Extends arm when coat is offered</li> <li>• Extends foot to put on shoe</li> <li>• Extends hands for washing</li> </ul> Demonstrate behavior specific to certain contexts (e.g., when student enters gym, indicates desire to transfer from wheelchair to exercise mat or equipment).

<b>Grade</b>	<b>Standard</b>	<b>Essence</b>	<b>Most Complex</b>	<b>More Complex</b>	<b>Less Complex</b>
<b>1</b>	C4-PO4. Name the days of the week for yesterday, today, and tomorrow (e.g., If today is Wednesday, what day will it be tomorrow?)	Understand concept of days.	Name days of the week in sequence when using a classroom calendar.	Use classroom calendar to record and discuss events that have occurred during the day (e.g., student pictures taken, P.E., special assembly, academic accomplishment).	Attend to environmental cues related to transitions in familiar environments.
<b>2</b>	C4-PO3. Tell time to the quarter hour using analog and digital clocks.  C4-PO7. State equivalent relationships: 12 inches = 1 foot 60 minutes = 1 hour 24 hours = 1 day 7 days = 1 week 12 months = 1 year 100 pennies = 1 dollar 10 dimes = 1 dollar 4 quarters = 1 dollar.	Understand concept of time.  Understand equivalent relationships.	Demonstrate ability to respond to a familiar hand position on a clock as a cue for a specific event (e.g., 11:35 = lunch).  State equivalent relationships: 100 pennies = 1 dollar 10 dimes = 1 dollar 4 quarters = 1 dollar 12 items = 1 dozen	Sequence pictures (paired with print) or tactile symbols (paired with Braille) of at least three activities as they are to occur in a daily routine.  State equivalent relationships: 4 quarters = 1 dollar. 12 items = 1 dozen	Demonstrate behavior specific to certain contexts (e.g., when student enters gym, indicates desire to transfer from wheelchair to exercise mat or equipment).  Use at least one other person as a resource to complete a task or obtain a goal (e.g., takes or otherwise purposely directs teacher's attention to object wanted).
<b>3</b>	C4-PO3. Determine the passage of time across months (units of days, weeks, months) using a calendar.	Understand the passage of time.	Using a classroom calendar with special event dates identified and infusing the concepts of today, tomorrow and yesterday, indicate how many days will pass before a scheduled activity/event occurs and how many days have passed since a scheduled activity/event occurred.	Using a classroom calendar with special events indicated with pictures, objects/partial objects, or symbols and infusing the concepts of today, tomorrow and yesterday, indicate what happened today, what will happen tomorrow, and what happened yesterday.	Go to next activity scheduled using object cues paired with environmental cues.

Grade	Standard	Essence	Most Complex	More Complex	Less Complex
<b>4</b>	C4-PO2. Compute elapsed time using a clock (e.g., hours and minutes since or until...) or a calendar (e.g., days, weeks, years since or until...).	Understand concept of time.	Use face and digital clock at all intervals (hour, half-hour, 15 minutes, 5 minutes, minute) to comment on the time, estimate time needs, and solve real-life problems.	Refer to pictures (paired with print) or tactile symbols (paired with Braille) to determine “what comes next.”	Go to next activity scheduled using partial object cues paired with environmental cues.
	C4-PO6. State equivalent relationships: 3 teaspoons = 1 tablespoon, 16 cups = 1 gallon, 2000 pounds = 1 ton	Understand equivalent relationships.	State equivalent relationships: 12 inches = 1 foot 60 minutes = 1 hour 24 hours = 1 day 7 days = 1 week 12 months = 1 year	Use discrete measuring tools that require no decision making, such as a one-quarter cup measuring cup or a twelve inch ruler, to complete a task such as making a snack or completing a project.	Use 1:1 correspondence in a variety of contextually relevant tasks.
<b>5</b>	C4-PO3. Determine relationships including volume, e.g., pints and quarts, milliliters and liters.	Understand measurement by volume.	Determine relationships including volume: 2 cups = 1 pint, 2 pints = 1 quart, 4 quarts = 1 gallon	Identify tools used for measuring (e.g., cup, ruler, tablespoon, and thermometer).	Pour liquid from one container to another without overfilling.
<b>6</b>	C4-PO11. Determine the actual measure of objects using a scale drawing or map.	Measure objects.	In contextual situations, determine the actual measure of objects using measurement tools (e.g., size of desktop, length of foot, weight of student).	In contextual situations, use teacher-marked measuring tools that require decision making, such as a one cup measuring cup clearly marked at the one-half cup level or a twelve inch ruler clearly marked at the six inch length, to complete a task such as making a snack or completing a project.	Given a visual representation such as a simplified ruler, determine the actual measure of objects.

<b>Grade</b>	<b>Standard</b>	<b>Essence</b>	<b>Most Complex</b>	<b>More Complex</b>	<b>Less Complex</b>
<b>7</b>	C4-PO8. Compare estimated to actual lengths based on scale drawings or maps.	Compare estimated to actual measure of objects.	In contextual situations, compare estimated to actual measure of objects using measurement tools (e.g., length of wall, height of door, weight of bag).	In contextual situations, use standard markings on measuring tools that require decision making, such as a one cup measuring cup to measure out one-fourth cup or a twelve inch ruler to measure three inches, to complete a task such as making a snack or completing a project.	Given a visual representation such as a simplified ruler, verify which of two measured objects is greater.
<b>8</b>	No measurement standards.				
<b>10</b>	No measurement standards.				

**Mathematics Strand 5  
Structure and Logic  
Expanded Benchmarks**

**DRAFT**

**Students at these standards levels know and are able to do the following by the end of the school year:**

<b>Grade</b>	<b>Standard</b>	<b>Essence</b>	<b>Most Complex</b>	<b>More Complex</b>	<b>Less Complex</b>
<b>K</b>	C2-PO1. Sort objects according to observable attributes.	Sort objects.	Sort objects according to observable attributes.	Group objects as same/different.	Match like objects.
<b>1</b>					
<b>2</b>	C2-PO1. Identify the concepts <i>some</i> , <i>every</i> , and <i>many</i> within the context of logical reasoning.  C2-PO2. Identify the concepts <i>all</i> and <i>none</i> within the context of logical reasoning.	Understand concepts.  Understand concepts.	Identify the concepts <i>some</i> and <i>every</i> within the context of logical reasoning.  With visual support, identify the concepts <i>all</i> and <i>none</i> within the context of logical reasoning.	With visual support, identify the concepts <i>some</i> and <i>every</i> within the context of logical reasoning.  With visual support, identify the concept of <i>all</i> within the context of logical reasoning.	Indicate the desire for <i>more</i> .  Indicate an understanding of <i>all gone</i> or <i>finished</i> .
<b>3</b>	C2-PO1. Draw conclusions based on existing information (e.g., All students in Ms. Dean's 1st grade class are less than 7 years old. Rafael is in Ms. Dean's class. Conclusion: Rafael is less than 7 years old.).	Draw conclusions.	With visual support, draw conclusions based on existing information (e.g., All students in Ms. Dean's 1st grade class are less than 7 years old. Rafael is in Ms. Dean's class. Conclusion: Rafael is less than 7 years old.).	In contextual situations and with visual support, draw conclusions based on existing information (e.g., a tally chart indicates that there are 8 girls and 12 boys in the class. Are there more boys or girls?).	Associate cues, objects, pictures and their meanings as symbols to represent routine daily activities.
<b>4</b>	C2-PO1. Draw a conclusion from a Venn diagram.	Draw conclusions.	Draw a conclusion from a Venn diagram that includes picture support and that has no more than three overlapping components.	In a contextual situation, draw a conclusion from a Venn diagram that includes picture support and that has no more than two overlapping components.	Follow two-step related directions.



<b>Grade</b>	<b>Standard</b>	<b>Essence</b>	<b>Most Complex</b>	<b>More Complex</b>	<b>Less Complex</b>
<b>5</b>	C2-PO1. Construct <i>if...then</i> statements.	Construct <i>if...then</i> statements.	In contextual situations, construct <i>if...then</i> statements.	In contextual situations, demonstrate beginning problem solving, alternative solutions or negotiation skills (e.g., if we can't go to the park now, can we go after dinner?).	In contextual situations, demonstrate beginning problem solving, alternative solutions or negotiation skills (e.g., if we can't go to the park now, can we go after dinner?).
<b>6</b>	C2-PO1. Solve a simple logic problem from given information (Which of three different people live in which of three different colored houses?).	Solve logic problem.	With visual support, solve a simple logic problem from given information (Eight people are deciding what to do. Six want to go to the movies and two want to go to the mall. Which activity will the group decide to do?).	In contextual situations and with visual support, solve a simple logic problem from given information (Eight people are deciding what to do. Six want to go to the movies and two want to go to the mall. Which activity will the group decide to do?).	Go to next activity scheduled by referring to an object or picture schedule.
<b>7</b>	C2-PO1. Solve a logic problem using multiple variables.	Solve logic problem.	With visual support, solve a logic problem using multiple variables (Which of eight different people want to attend which of three different movies?).	In contextual situations and with visual support, solve a logic problem using multiple variables (Which of eight different people want to attend which of three different movies?).	In contextual situations and with visual support, solve a logic problem using multiple variables (e.g., "Which of these three food items do you want as a main course, which do you want as a vegetable, and which do you want for dessert?").
<b>8</b>	C2-PO1. Solve a logic problem given the necessary information.	Solve logic problem.	With visual support, solve a logic problem given the necessary information (e.g., if you have \$60.00 to spend on recreation for one year, how much should you budget for each month?).	In contextual situations and with visual support, solve a logic problem given the necessary information (e.g., if you have \$60.00 to spend on recreation for one year, how much should you budget for each month?).	Modify object or picture schedule based on unique activities that may occur on that school day (e.g., related service staff is not there, so OT is cancelled that day and replaced with classroom P.E.).

Grade	Standard	Essence	Most Complex	More Complex	Less Complex
10	C2-PO1. Draw a simple valid conclusion from a given <i>if...then</i> statement and a minor premise.	Draw conclusions.	With visual support, draw a simple valid conclusion from a given <i>if...then</i> statement and a minor premise (e.g., We have \$8.00 to spend at the movies. If admission is \$5.00 and snacks range in price from \$4.50 to \$2.25, which snacks can we buy?).	In contextual situations and with visual support, draw a simple valid conclusion from a given <i>if...then</i> statement and a minor premise (e.g., We have \$8.00 to spend at the movies. If admission is \$5.00 and snacks range in price from \$4.50 to \$2.25, which snacks can we buy?).	In contextual situations and with visual support, draw a simple valid conclusion from a given <i>if...then</i> statement and a minor premise (e.g., “We need to include a green vegetable in our menu. If there are no green beans, then we can get green peas.”).